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EXAMINER

LEVITAN, DMITRY

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,402

Applicant(s)

KROON, JEFFREY

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the comparing the received ACK packet from the destination station with the retransmission packet in the message queue including consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

✓ 1. The disclosure is objected to because of the following informalities: typographical errors on page 11, data drivers 220 and smart modem 222, instead of data drivers 210 and smart modem 211 as shown on Fig. 2; typographical errors on page 16, n instead of in.

Appropriate correction is required.

Claim Objections

✓ 2. Claim 6 is objected to because of the following informalities: claims limitation of means for discarding seems incomplete. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2, 7 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 2 and 9, how to consider the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet with those of the retransmission message packet in the queue.

Regarding claim 7, means for evaluating includes means for consideration of the sequence number, destination address, source address, destination port and TCP control bits of the received ACK packet.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Phillips (US 6,118,765).

Phillips teaches a method in radio network (Fig. 6 and 6:17-29) using TCP as a transport protocol (6:57-65) for acknowledging (1:14-21) IP message packets (6:66-67 and 7:1-11) successfully received at a destination station and retransmitting message packets from a source station (host computer 118 on Fig. 1 and 7:21-32) which are not acknowledged within a predetermined period of time (1:23-27), a method of reducing the unnecessary retransmission of message packets comprising the steps of:

- a. Receiving TCP packets at a source radio (slow link TCP optimizer 510 and base station controller 218 on Fig. 6 9:21-33) from a source station for retransmission to a destination station;
- b. Maintaining the TCP packets in a message queue until retransmission (buffer queue 9:57-63);
- c. Comparing each received TCP packet from the source station with the TCP packets in the message queue (discriminator 514 on Fig. 5 and 9:28-33); and

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d. Discarding the received TCP packet if the TCP packet matches a TCP packet already in the message queue (9:64-67 and 10:1-4)

To thereby prevent duplicate TCP packets from being stored in the message queue.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips.

Phillips substantially teaches all the limitations of claim 13, including means for recognizing the receipt of a TCP acknowledgement message at the source radio (acknowledgements 122 on Fig. 5 and 8:6-15) and utilizing CDMA interconnection (7:33-36) to a remote terminal that accepts transmission in both directions.

Phillips does not teach means for recognizing the receipt of a TCP acknowledgement at both stations.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add means for recognizing the receipt of a TCP acknowledgement at each station to the system of Phillips to eliminate unnecessarily retransmission in the system, particularly benefiting transmission from a remote terminal.

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9. Claims 1, 3-6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips in view of Packer (US 6,018,516).

Phillips substantially teaches all the limitations of claims 1, 4, 6, 11:

A system and a method of reducing the retransmission of previously successfully transmitted message packets (4:6-17) from a source station (host computer 118 on Fig. 1 and 7:21-27) to a destination station (remote terminal 110 on Fig. 110 and 7:27-32)

through a radio network (CDMA 6:24-28) in which the source station has at least one corresponding destination radio (mobile unit 216 on Fig. 6 and 10:5-12) and the radio network utilizes TCP as the reliable transport protocol (6:57-65), comprising the steps of

- a) Maintaining a message queue at the source radio (slow link TCP optimizer 510 and base station controller 218 on Fig. 6 9:21-33) including TCP retransmission messages from the source radio to destination stations (9:57-63);
- b) evaluating each TCP message received at the source radio to determine whether the received message is a TCP acknowledgement from destination station corresponding to a TCP retransmission message in the message queue (acknowledgements 122 on Fig. 5 and 8:6-15).

Phillips does not teach discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message.

Packer teaches discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message (2:64-67, 3:1-3).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to add discarding the TCP retransmission message from the message queue if the evaluated TCP message is an acknowledgement corresponding to the TCP retransmission message of Packer to the system of Phillips to eliminate unnecessarily retransmission in the system.

Regarding claims 3, 5 and 12, Phillips teaches the message packets as IP packets (6:66-67 and 7:1-11).

In addition, regarding claim 6, Phillips teaches means for evaluating each TCP message and means for discarding the message as slow link TCP optimizer (Fig. 5 and 9:21-63).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bellaton	US006473425B1	Mechanism for dispatching packets via a telecommunication network.
Ljungqvist	US006611535B2	Method for flow control.
Mawhinney	US006091710A	System and method for preventing data slow down.
Ghani	US006215769B1	Enhanced acknowledgement pacing device and method for TCP connections.
Packer	US006298041B1	Method for explicit data rate control in a packet environment.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is 703-305-4384. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.



Dmitry Levitan
Patent Examiner.
10/30/03.



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